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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/998,208	12/03/2001	Kazutaka Noborimoto	216533US6	4333
22850	7590	10/01/2004	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			CHU, KIM KWOK	
			ART UNIT	PAPER NUMBER
			2653	

DATE MAILED: 10/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/998,208

Applicant(s)

NOBORIMOTO ET AL.

Examiner

Kim-Kwok CHU

Art Unit

2653

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5-10 is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☒ Claim(s) 2-4 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 3/27/2002
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_

**Claim Rejections - 35 USC § 102**

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

*A person shall be entitled to a patent unless --  
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.*

2. Claim 1 is rejected under 35 U.S.C. § 102(b) as being anticipated by Tsuchiya et al. (U.S. Patent 5,787,061).

Tsuchiya teaches an optical disk drive having all the elements and means as recited in claim 1. For example, Tsuchiya teaches the following:

(a) as in claim 1, the optical-disk reproducing apparatus capable of selectively reproducing an information signal from a first optical disk 7 with recording tracks laid out thereon, being separated from each other by a track pitch equal to a first distance or a second optical disk 7 with recording tracks laid out thereon, being separated from each other by a track pitch equal to a second distance shorter than the first distance (Fig. 1; column 4, table 1);

(a) as in claim 1, a radiation means 1 for radiating an optical beam to an optical disk 7 mounted on the optical-disk reproducing apparatus (Fig. 2);

(b) as in claim 1, an objective lens 6 for converging the optical beam radiated by the radiation means 1 into an optical beam with a diameter smaller than the first distance but longer than the second distance (Fig. 2; beam spot has a specific size as expressed in a diameter range);

(c) as in claim 1, a liquid-crystal means 44 provided on an optical path between the objective lens 6 and the radiation means 1 (Fig. 2; column 5, lines 62-64);

(d) as in claim 1, a voltage-applying means for applying a driving voltage to the liquid-crystal means 44 so as to change an electrode pattern the liquid-crystal means (Figs. 5 and 6; inherent feature where the liquid-crystal shutter 44 is controlled by a driving voltage);

(e) as in claim 1, a discrimination means 16 for determining whether an optical disk mounted on the optical-disk reproducing apparatus is a first optical disk or a second optical disk (Fig. 1; column 5, lines 28 and 30); and

(f) as in claim 1, a control means 16 which drives the voltage-applying to the liquid-crystal means to apply a driving voltage means so as to generate such aberration in the optical beam that the diameter of the optical beam is set at a value close to the first distance when the discrimination means determines an optical disk mounted on the optical-disk reproducing apparatus to be a first optical disk (Figs. 5 and

6; column 7, lines 10-13, 31-32; beam spot from 0.9 um to 1.5 um).

***Allowable Subject Matter***

3. Claims 5-10 are allowable over prior art.

4. Claims 2-4 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. The following is an Examiner's statement of reasons for the indication of allowable subject matter:

As in claim 2, the prior art of record fails to teach or fairly suggest the following features:

(a) a light source for emitting an optical beam having a wavelength of about 780 nm;

(b) an objective lens having a numerical aperture (NA) of about 0.62 and serving as a means for converging the optical beam emitted by the light source and then radiating the converged optical beam to the optical disk;

(c) a liquid-crystal means provided on an optical path between the objective lens and the radiation means; and

(d) a voltage-applying means for applying a driving

voltage to the liquid-crystal means so as to change an electrode pattern of the liquid-crystal means.

As in claims 5 and 8, the prior art of record fails to teach or fairly suggest the following features:

(a) a light source for emitting an optical beam having a wavelength of about 780 nm;

(b) an objective lens having a numerical aperture (NA) of about 0.62 and serving as a means for converging the optical beam emitted by the light source and then radiating the converged optical beam to the optical disk; and

(c) a spot-diameter control means for controlling a spot diameter of the converged optical beam radiated by the objective lens to the optical disk, wherein the spot-diameter control means adjusts the spot diameter of the converged optical beam radiated by the objective lens to the optical disk in accordance with the type of the optical disk determined by the discrimination means.

The features indicated above, in combination with the other elements of the claims, are not anticipated by, nor made obvious over, the prior art of record.

**Conclusion**

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Sato et al. (6,690,632) is pertinent is pertinent because Sato teaches an optical pickup having a liquid-crystal device as an aberration correction means.

Kajiyama et al. (6,321,028) is pertinent is pertinent because Kajiyama teaches an optical pickup having a liquid-crystal device as an aperture varying means.

Ootaki et al. (5,734,637) is pertinent is pertinent because Ootaki teaches an optical pickup having a liquid-crystal control circuit.

Hayashi et al. (5,703,856) is pertinent because Hayashi teaches an optical head for reproducing data from first and second optical disks which are different from each other.

Eguchi et al. (5,742,437) is pertinent because Eguchi teaches an optical pickup having substrate thickness detector.

7. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks Washington, D.C.  
20231 Or faxed to:

(703) 872-9306 (for formal communications intended for  
entry. Or:

(703) 746-6909, (for informal or draft communications,  
please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park  
II, 2021 Crystal Drive, Arlington. VA., Sixth Floor  
(Receptionist).

Any inquiry of a general nature or relating to the status  
of this application should be directed to the Group  
receptionist whose telephone number is (703) 305-4700.

Any inquiry concerning this communication or earlier  
communications from the examiner should be directed to Kim CHU  
whose telephone number is (703) 305-3032 between 9:30 am to  
6:00 pm, Monday to Friday.

*Kim* 9/21/04  
Kim-Kwok CHU  
Examiner AU2653  
September 21, 2004

(703) 305-3032

*William Korzuch*  
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